



## Confirmation of Product Type Approval

**Company Name:** LOKRING TECHNOLOGY, LLC

**Address:** 38376 APOLLO PARKWAY WILLOUGHBY OH 44094 United States

**Product:** Elastic Strain Preload (ESP) Fittings

**Model(s):** LTCS-333

**Endorsements:**

<b>Certificate Type</b>	<b>Certificate Number</b>	<b>Issue Date</b>	<b>Expiry Date</b>
Product Design Assessment (PDA)	21-2200437-PDA	13-JAN-2022	12-JAN-2027
Manufacturing Assessment (MA)	22-5404070	29-AUG-2022	28-AUG-2027
Product Quality Assurance (PQA)	NA	NA	NA

### **Tier**

3 - Type Approved, unit certification not required

### **Intended Service**

Offshore applications PROCESS piping ONLY. May be used for B31.1 power if limited to process power only.

### **Description**

LTCS -333 Fittings

### **Ratings**

For Fittings, Sizes, Pressure Rating, etc. see attached "pdf" for details.

For specific service applications, please consult LOKRING Applications guide.

### **Service Restrictions**

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

The LTCS fittings HAVE NOT been qualified to the IACS testing requirements and may not be used in any marine systems.

Use is limited to process piping and process power only on the topsides of a unit. May be used in minimum temperatures -50 degrees F (-46 degrees celcius)

### **Comments**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

**Notes, Drawings and Documentation**

Drawing no. 16-005, Proposed Test Plan Procedure for extension of American Bureau of Shipping PDA, 2016

Drawing no. 6090128R6, Guideline for Designing ASME B31 Pressure Piping Using Lokring™ Fittings with Elastic Strain Preload® (ESP®) Technology, 2015

Drawing no. 6090127 Lokring Fitting Applications Guide, 2014

Drawing no. TR 10-017- ABS ReCert 111912, Test Report Requirements for Mechanical Joints- Lokring Fittings & Sizes, dated November 2012

Drawing no. 10-014 TSSA Subm 020311, Test Report 10-014 TSSA of LLTCS-333 Fittings, 2011, Lokring Technology

Drawing no. 11-022 Lokring API 6FB Fire test 020212, Test Report 11-022 of LTCS-333 and MAS-3000 product lines, 2011, Lokring Technology

Drawing no. USCG Acceptance Letter (Web) 022409, USCG Acceptance Letter (Web) 022409

Drawing no. Project 08-16456 - Pressure & Vibration Waveforms test, dated 21 Dec. 2011, Southwest Research Institute

TP 08-020 LTCS P24 Qual Flex Burst Test Calcs

TP 09-009 LTCS P16 Qual Flex Burst Test Calcs

TP 09-024 LTCS P08 Qual Flex Burst Test Calcs

TP 09-025 LTCS P12 Qual Flex Burst Test Calcs

TP 09-026 LTCS P32 Qual Flex Burst Test Calcs

TP 10-009 LTCS P48 Qual Flex Burst Test Calcs

TP 10-011 LTCS P64 Qual Flex Burst Test Calcs

**Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 12/Jan/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

**ABS Rules**

The Rules for Conditions of Classification, Offshore Units and Structures, 2022 Mobile Offshore Units 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2022 Rules for Building and Classing Facilities on Offshore Installations: 3-3/11.1.

**International Standards**

ASME B31.1:2020 - Power Piping

ASME B31.3:2020 - Process Piping

**EU-MED Standards**

NA

**National Standards**

NA

**Government Standards**

NA

**Other Standards**

NA



A handwritten signature in blue ink, appearing to read 'James J. White'.

Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 08-Apr-2026 8:15

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.